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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,294	07/25/2000	Chandra Mohan	RCA 89,813	7033

7590 02/23/2004

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EXAMINER

LIU, SHUWANG

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,294

Applicant(s)

MOHAN ET AL.

Examiner

Shuwang Liu

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-11, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Examiner withdraws the allowable for the claims 1 since the new reference is found for new rejections.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-11, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyamoto et al. (US 6,559,996).

As shown in Figures 1-6, Miyamoto et al. discloses a digital data modulator, characterized by:

(1) regarding claims 1, 5, 6 and 14:

a source (14) of a digital data signal;

an encoder (1), for encoding the digital data using a variable pulse width code (see PRE-CODED NRZ ELECTRICAL SIGNAL in figure 3);

a pulse signal generator (2), generating respective pulses representing edges of the encoded digital data signal (see DIFFERENTIATED SIGNAL in figure 3 and column 7, lines 44-58); and

a carrier signal generator (4-6), for generating a carrier signal having carrier pulses corresponding to the respective pulses (see figure 4).

wherein the pulse signal generator inherently comprises:

a differentiator, coupled to the encoder; and a level detector, coupled to the differentiator (column 11, lines 51-59).

wherein the carrier signal generator comprises:

a carrier oscillator (5); and

a mixer (4), having a first input terminal coupled to the pulse signal generator and a second input terminal coupled to the carrier oscillator.

(2) regarding claim 2:

the variable pulse width code is a variable aperture code (see PRE-CODED NRZ ELECTRICAL SIGNAL in figure 3).

(3) regarding claim 3:

the encoder (1) generates an encoded digital data signal having leading edges and trailing edges (see PRE-CODED NRZ ELECTRICAL SIGNAL in figure 3);

the pulse signal generator (2) generates positive pulses in response to a first edge in the digital data signal and negative pulses in response to a different second edge in the digital data signal (see DIFFERENTIATED SIGNAL in figure 3 and column 7, lines 44-58); and

the carrier signal generator (4-6) generates a carrier pulse having a first phase in response to a positive pulse and having a second phase in response to a negative pulse (see figure 4).

(4) regarding claim 4:

the first phase is substantially 180 degrees out of phase with the second phase (figure 4);

said first edge is a leading edge (figure 4); and

said second edge is a trailing edge (figure 4).

(5) regarding claims 8-11 and 15:

As shown in Figure 6, Miyamoto et al. discloses digital data receiver which inherently reverses the process of the transmitter as described in items (1) and (3)-(4) above, therefore, the receiver should be comprising:

a source of a modulated signal, having carrier pulses spaced relative to each other to represent a variable pulse width encoded digital data signal;

a detector for generating a variable pulse width encoded signal in response to received carrier pulses;

a decoder for decoding the variable pulse width encoded signal to generate the digital data signal (column 10, line 65-column 11, line 4).

Furthermore, the variable pulse width code should be a variable aperture code (see item (3)), the carrier pulses should have one of a first phase and a second phase, and the first phase should be substantially 180 degrees out of phase with the second phase (see item (4)).

(6) regarding claim 7:

further comprising a bandpass filter (6) coupled to an output terminal of the mixer.

Allowable Subject Matter

3. Claims 12 and 13 are allowed.

4. The following is an examiner's statement of reasons for allowance: the prior art fails to teach and suggest a digital demodulator comprising a bandpass filter, an integrator and a limiting amplifier as recited in claim 12 and a windowing timer as recited in claim 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

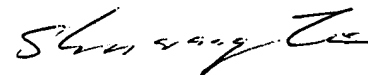
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

February 12, 2004